

the skin layer as described in claim 1 and reliance is placed in the rejection on Lackman as a showing of stitching.

It was confirmed in the interview that reliance was being placed on the “cauls” 82 and 90 in Figure 2 of Willden as representing the “fiber reinforced material adhered to the skin and stiffeners” referred to in the Office Action rejection. As discussed during the interview, however, cauls such as 82 and 90 (and additional cauls 36 and 92 shown in Figure 18) are used as tooling equipment that do not form part of the completed “fuselage crown panel” or “composite panel 10” of the patent

A review of the entire disclosure of Willden confirms that the cauls are tooling equipment used to facilitate consistent pressurization on the stringers to the skin panel and that the cauls are not retained on the panel structure formed. In this regard, reference is made to the Brief Description and particularly the brief descriptions of Figures 1, 2 and 3 which read:

FIG. 1 is an exploded view of a fuselage crown panel section made completely of composite parts in accordance with the invention;

FIG. 2 is an exploded view like FIG. 1, **but in addition to showing the various parts which make up the crown panel, FIG. 2 also shows certain tooling in accordance with the invention and how such tooling is used to produce the panel;**

FIG. 3 is a pictorial view of the **crown panel shown in FIG. 1;**

A comparison of Figures 1, 2 and 3 conveys that the cauls 82 and 90 are representative of the tooling components and not part of the crown panel shown in Figure 1 in an exploded state and in Figure 3 in its final assembled state. In this regard, reference is made to column 4, line 58 which reads: “FIG. 3 shows the panel 10 **in its entirety after curing and bonding** in accordance with the invention...”

Also the cauls are described in column 3, lines 10 to 21 and column 7 lines 55 to 62 as being formed of a base of high temperature rubber (as in fluorelastomeric rubber) and an outer

layer of a [rubber] reinforcing material as in a composite material with the reinforcing material assisting the caul in performing its tooling function. That is, “[t]he reinforcing material is joined to and arranged relative to the flexible material in a manner so that it stiffens and controls the flexible material, and causes it **to maintain the part shape of the stringers as the caul is pressed against each stringer, and while each stringer is subsequently cured.**” Reference is also made to the sentence bridging columns 7 and 8 which describes the utilization of the fiber reinforced material over a portion of the rubber base as helping it have the same thermal coefficient as the parts being compressed by the caul tooling equipment.

Thus, it is respectfully submitted that a review of the Willden application in its entirety clearly conveys that the desired lightweight aircraft crown panel being formed in Willden is devoid of the tooling equipment which includes the cauls used in aligning and compressing the stringers on the skin panel. Further, as the cauls represent tooling material that is not for retention on the final crown panel formed, it would not have been obvious to modify Willden to have its tooling cauls threaded to the skin layer. As the combination of Willden and Lackman is relied upon in each rejection, withdrawal of the obviousness rejection and allowance of the application is respectfully requested.

During the interview there was also a discussion of the feature of having metal stiffeners and how one of ordinary skill in the art would not have found it obvious to modify the arrangement in Willden, as modified by Lackman, to utilize metal stiffeners in view of Lackman’s threading being shown as going through the base of the relied upon flanged “stiffeners” in that reference. Reference was further made to claim 13 as being a dependent claim featuring a metal stiffener.

* * *

Applicant respectfully submits that the above remarks obviate all of the outstanding rejections in this case, thereby placing the application in condition for immediate allowance. Allowance of this application is earnestly solicited.


If any fees under 37 C.F.R. § 1.16 or 1.17 are due in connection with this filing that are

Request For Reconsideration
U.S. Appln. No. 10/717,514

not accounted for, please charge the fees to Deposit Account No. 02-4300, Order No.
032405.0951.

Respectfully submitted,
SMITH, GAMBRELL & RUSSELL, LLP

By:



Dennis C. Rodgers, Reg. No. 32,936
1850 M Street, N.W., Suite 800
Washington, D.C. 20036
Telephone: (202) 263-4300
Facsimile: (202) 263-4329

Dated: July 21, 2005